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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,860	03/04/2002	Robert P. Carmichael	10547-005/HRH	4309

1059 7590 01/05/2004

BERESKIN AND PARR
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CANADA

EXAMINER

BUMGARNER, MELBA N

ART UNIT	PAPER NUMBER
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3732

DATE MAILED: 01/05/2004

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,860

Applicant(s)

CARMICHAEL ET AL.

18

Examiner

Melba Bumgarner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because the language should be clear and concise and should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc. Correction is required. See MPEP §608.01(b).

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: "27" and "29". A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 10-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 10, if applicant defines "a thread" as having at least three revolutions (claim 9) and "said thread" having "a crest", then "said three revolutions" should also have the crest not crests, if this is so, then a line is not defined. In claim 11, "the thread" should read --a thread—, perhaps "the crests" should read

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--crests-- and it is not clear "crests" include that of a thread of "said distal thread portion". In claim 12, "said cutting edges extend" should read --said cutting edge extends--, "respective cutting edge ends" should read --a cutting edge end-- and "said cutting edge ends", should read --said cutting edge end--, perhaps "the roots" should read --roots-- and it is not clear "roots" include that of the thread of "said distal thread portion".

Claim Objections

5. Claims 6 and 13 are objected to because of the following informalities: in claim 6, line 2, "threaded" should read --thread--; in claim 13, line 2, --edge--should be inserted after "cutting". Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-7 and 9-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Klardie et al. (6,048,204). Klardie et al. disclose a dental implant 100 comprising a body portion 105 and a head portion 113, the body portion comprising a tip portion 125 remote from the head portion, a lead thread portion adjacent the tip portion, an intermediate thread portion adjacent the lead thread portion and a distal thread portion adjacent the head portion, the implant further comprising a central bore 117 within the head portion and a thread 121 within the bore, the tip portion comprises at least one

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cutting edge 141 and the body portion comprising at least one flute 133 having a first end adjacent the at least one cutting edge (figures 2,4). As to claim 2, the body portion has a general longitudinal axis 110 and comprises an outer surface and the at least one flute extends along the outer surface in a direction substantially parallel to the axis (column 4 line 12). As to claim 3, the implant comprises at least two cutting edges and at least two flutes. As to claim 4, the implant comprises two cutting edges and two flutes. As to claim 5, the flute extends from the tip portion along the lead thread portion and the intermediate thread portion. As to claim 6, the flute has a distal end and the distal end is adjacent a proximal end of the distal thread portion. As to claim 7, the flute has a flute surface and the surface is roughened (column 6 lines 32, 46). As to claim 9, the lead thread portion comprises a thread having at least three revolutions. As to claim 10, the thread of the lead thread portion has a crest and a crest line joining the "crests" of the three revolutions extends radially outwardly, distally, relative to the axis. As to claim 11, a line joining the crests of the thread of the intermediate thread portion and the distal thread portion is substantially parallel to the axis. As to claim 12 as understood, Klardie et al. show a root line parallel to the axis and displaced from the axis a root distance and the cutting edge extends from the axis radially outwardly to a cutting edge end, which is displaced from the axis a cutting edge distance, wherein the root distance is greater than the cutting edge distance. Since the tip portion of the implant comprises the cutting edge (claim 1) and the lead thread portion of Klardie et al. is "tapered", the cutting edge end would have a cutting edge distance from the axis that is smaller than the root distance as seen in figure 4.

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Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klardie et al. in view of Day (5,947,735). Klardie et al. disclose a dental implant that shows the limitations as described above; however, they do not show the surface of the lead thread portion and the intermediate thread portion being "smooth". Day teaches a dental implant having the surface of lead thread portion and the intermediate thread portion unaffected by roughening (smooth) (figures 1, 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the dental implant of Klardie et al. to have the surface of the lead thread and intermediate portions to be "smooth" as in Day. One would have been motivated to make such a modification in order to install the implant without having to increase installation torque and to have the cutting edge(s) able to cut the bone tissue unaffected by the roughened area(s) in view of Day. It is noted that the use of the term "smooth" is broad in that the specification describes the surface as "relatively smooth" to facilitate the sliding of the surface relative to the bone, but not "so smooth" that integration does not occur.

10. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klardie et al. Klardie et al. disclose a dental implant that shows the limitations as described above; however, they do not show a ratio of the root distance and the cutting

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edge distance. Although, it appears like the difference is no greater than one third of the root distance. It would have been an obvious matter of choice to one having ordinary skill in the art at the time the invention was made as to the specific ratio or percentage difference of the distances. The difference in these distances is not disclosed as critical to the claimed invention, in fact the specification states that the difference in distances establishes the amount of compression the surface of the bone will be subjected to, which in turn is determined by the density of the bone.


Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aspichueta et al. (6,053,733), Rogers et al. (6,217,331), and Hansson (6,220,860) are cited to show the state of the art with respect to dental implants.

12. Any inquiry concerning this communication from the examiner should be directed to Melba Bumgarner whose telephone number is 703-305-0740. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (703) 308-2582. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.


Melba Bumgarner
Patent Examiner